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# Software Engineering Based Fault Tolerance Method for Wireless Sensor Network

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**Abstract**— The management of faults in Wireless Sensor Networks (WSN) has been considered recently. The problem of tolerating the detected fault is solved by presenting different methods from numerous researchers. Moreover, the software engineering approaches have been adopted to introduce methods with high reliability. In this paper, a fault tolerance method is proposed for WSN based on the software engineering self-checking process to deal with the faults that affect energy consumption in the network and make it drop earlier. The proposed method detects the appeared fault at any sensor node and recovers the faulted readings by computing the average value of its neighbor nodes. In addition, this process is continued until the faulty sensor is fixed by the maintenance team. The proposed method is tested over different case studies and the obtained results prove the claim of the paper's idea.

**Index Terms**— WSN, Software Engineering, Fault Tolerance, Self-Checking Process.